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The effect of business networking on the business performance through the technology capability and innovation in the transportation business of Thailand

อิทธิพลของเครือข่ายธุรกิจที่ส่งผลต่อผลการดำเนินงานของธุรกิจผ่านความสามารถทางเทคโนโลยีและนวัตกรรมในธุรกิจขนส่งของประเทศไทย

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บทคัดย่อ

งานวิจัยชิ้นนี้ มีวัตถุประสงค์เพื่อ 1) ตรวจสอบอิทธิพลของเครือข่ายธุรกิจ ความสามารถทางเทคโนโลยี และนวัตกรรม ที่ส่งผลต่อผลการดำเนินงานของธุรกิจขนส่งในประเทศไทย และ 2) ตรวจสอบอิทธิพลตัวแปรคั่นกลางพหุขนานของความสามารถทางเทคโนโลยีและนวัตกรรมที่ส่งผลต่ออิทธิลของเครือข่ายธุรกิจต่อผลการดำเนินงานของธุรกิจขนส่งในประเทศไทย การวิจัยครั้งนี้เป็นการวิจัยเชิงปริมาณทำการศึกษาผลลัพธ์เชิงประจักษ์โดยการประยุกต์ใช้แบบจำลองของตัวแปรคั่นกลางพหุขนาน กลุ่มตัวอย่าง คือ ผู้จัดการที่ทำงานในธุรกิจขนส่งจำนวน 220 ราย ผลจากการศึกษาอธิบายได้ว่า 1) เครือข่ายธุรกิจ ความสามารถทางเทคโนโลยี และนวัตกรรมมีอิทธิพลต่อผลการดำเนินงานของธุรกิจ และ 2) เครือข่ายธุรกิจมีอิทธิพลทางอ้อมต่อผลการดำเนินงานของธุรกิจผ่านความสามารถทางเทคโนโลยีและนวัตกรรมซึ่งเป็นตัวแปรคั่นกลางพหุขนาน

คำสำคัญ: ตัวแปรคั่นกลางพหุขนาน เครือข่ายธุรกิจ ความสามารถทางเทคโนโลยี ผลการดำเนินงาน

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ABSTRACT

The objectives of this research are to: 1) verify the influence of business networking, technology capability, and innovation, on business performance in transportation business of Thailand; and 2) examine the influence of technology capability and innovation as parallel mediators on the influence of business networking and business performance in the transportation business of Thailand. The quantitative method was applied using the parallel-mediation model to evaluate the empirical results. The sample consisted of 220 managers who work in Thai transportation businesses.

The findings indicate the following: 1) business networking, technology capability, and innovation have an influence on business performance; and 2) business networking wields an indirect influence on business performance through technology capability and innovation as parallel mediators.

Keywords: Parallel-Mediation Model, Business Networking, Technology Capability, Innovation, Business Performance

INTRODUCTION

In recent decades, the rise of online marketing in Thailand has had a marked impact on goods and services so, enabling producers and vendors to send these to their customers quickly. The need for transportation to distribute goods from the point of origin to destination has been an integral part of business operations; it wields great economic value (Boukerche, Tao and Sun, 2020). Transportation is an important function along the supply chain and contributes between 40-60% of logistical costs (Lukinskiy and Pletneva, 2018). The effective use of existing transportation methods to move goods efficiently has been a crucial area of an increasingly important research topic for some time. Suppliers and vendors have always focused on reducing costs associated with the transportation of products for customers. This is an important issue particularly in developing countries (Khayamim *et al.*, 2020). However, no one enterprise has control of the entire logistics system within the supply chain. For this reason, networking for business operations so that the transportation industry functions more efficiently and doing better than one's competitors, is essential. Moreover, resilience among the relevant parties is important for good managerial decision–making, particularly during crisis situations, such as the recent COVID-19 pandemic.

Based on the inter-organizational perspective approach to solutions, the interdependence of various firms regarding solutions has to be practical but also of considerable theoretical importance and interest (Hedvall, Jagstedt and Dubois, 2019). When re-thinking transportation and logistics, recent refinements which relate to the lowering of trade barriers, advances in information technology, and the use of data analytical tools have become crucial for managing logistics and the transportation industry. Furthermore, with digital technologies, for example, internet and online devices have been applied to these networks including customer support centers (Di, 2020). This can create a competitive edge for firms who can acquire, adapt, operate, and create technological advances to lead in this field. Firms' operational capabilities must function well in terms of saving time to satisfy consumers, and where possible such operations be made specific in terms of logistics support coupled with the need to connect with various transportation businesses, so that moving goods is feasible.

Previous studies have concentrated on direct and indirect influences between business networking and business performance through other variables. However, very few studies have applied mediators such as technology capability and innovation as variables in their proposed frameworks. This research will focus on the influences of technology capabilities and innovation as parallel mediators. It also investigates the influence of business networking, technology capability, and innovation, on business performance, based on parallel – mediation model.

RESEARCH QUESTIONS

This paper is based on research into business environments mainly concerned with multiple factors, including business networking, technology capability, innovation, and business performance. Subsequently the following research questions will be addressed as follows:

1. What influential factors form part of the comprehensive model being used to explain the processes of business networking, technology capability, and innovation in terms of the transportation sector's business performance?

2. How does business networking influence business performance through the use of technology capability and innovation as parallel mediators?

RESEARCH OBJECTIVES

This paper has two main objectives and they are to:

1. Verify the influence of business networking, technology capability, and innovation, on business performance in the transportation business of Thailand.

2. Examine the influence of technology capability and innovation as parallel mediators on the influence of business networking and business performance in the transportation business of Thailand.

RESEARCH CONTRIBUTIONS

There are two major contributions made by this paper:

1. The management of transportation business firms can prepare and refine appropriate business networks, technology capabilities, and innovations so that improvements are meaningful.

2. Academic contributions can explain the link between multiple factors for innovation in transportation businesses are explained, which can lead to future research on specific aspects of this topic.

LITERATURE REVIEW

The influence of business networking on business performance

Blazkova (2011) identified business networking as a form of collaboration between dynamic entrepreneurs and companies who aim to be successful and make good profits. Schoonjans (2013) stated that collaboration and relationship in terms of information exchange can create strong associations amongst group members which a sole entrepreneur cannot achieve. Therefore, business networking is mainly concerned with communications between entrepreneurs and support members or agencies in the group, the desired outcome being bargaining power and other activities that create positive outcomes (Boso, Story and Cadogan, 2013; Owolabi and Pal, 2013). Networks can be defined as links between individuals, groups, companies and management terms that want the same advantages or benefit (Tajeddini, Martin and Ali, 2020). Moreover, knowledge exchanges within networks will make it possible to establish learning communities (Heidari *et al*., 2018; Kim and Shim, 2018).

Currently, business networks have been increased from information networks which involve diverse partners who utilize business intelligence for making decisions (Zheng *et al*., 2020). In the transportation industry, firms will have to be involved in the providing many solutions and in so doing have several roles to play in the network which is necessary for effective interdependence of network functions and appropriate solutions (Hedvall, Jagstedt

and Dubois, 2019). In addition, management activities are critical in all firms in these networks (Ahola *et al*., 2019). Interactions amongst firms within a network may increase the expertise of firms in some specific functions, such as research and development into new products and processes. Indeed, business networking is the starting point for new ideas which specifically relate to these interconnected business parties in a particular industry (Hàkasson, 1987). This is because firms in a network tend to have a propensity to increase innovation derived from the information flowing between partners (Tajeddini and Trueman, 2014). In considering business networking, we can conceptualize the components of a network as business tool, alliances, suppliers, and partners (Acquaah, 2011; Lin, Wood and Lu, 2012).

The concept of business performance refers to the management of a firm's operations in how it can perform well which is crucial for achieving the business goals. To measure business performance, management should consider key financial and non-financial aspects (Akintimehin *et al*., 2019; Capon, Farley and Hoenig, 1990; Fafchamps and Minten, 2002; Florin, Lubatkin and Schulze, 2003). In addition to this, business performance can be determined by profitability, return on investment, market share, customer satisfaction, product reliability, and the number of unique product features (Kalkan, Bozkurt and Arman, 2014). The transportation and logistics sectors are integral parts of a firm's supply chain. The dimension of supply chain management includes inbound, internal operation, and outbound functions. Ni and Sun (2019) indicated that inbound and internal operations wield an indirect effect on business performance, while outbound has a direct affect. This study applied both financial and non-financial performance indicators to measure how well participating firms do business. Moreover, an empirical study was conducted on the relationship between business networking and business performance in Malaysian SMEs (Saleh and Harvie, 2010). Based on this reasoning, the following hypothesis is proposed:

Hypothesis 1: Business networking has an influence on business performance.

The influence of technology capability, business networking, and business performance

Advances in technologies in recent decades have led to dramatic and rapid changes in industries. Information technology is now ubiquitous part of virtually all firms' communication systems in the supply chain context. Furthermore, information technology has created technology diffusion between countries and become a key role in establishing a business performance (Keller, 2004). Furthermore, a user's experience with the accepted technology is central to firms pleasing consumers in order to gain a competitive advantage over rivals (McCarthy and Wright, 2004). TDRI (1989) divided technology into components of technology

capabilities, varying from functions and activities which include: investment, processes, and product development, while supporting functions connect other agents and infrastructure for successful operations.

In determining a firm's strategy, business success is not only determined in terms of its capabilities, but also by corporate, business, and functional routines or procedures which reflect how resources are allocated, financial projections, information technology capabilities, well-functioning business processes including networks which specifically enable good interactions with customers (Cohen and Olsen, 2013). The component of technology capability has a focus on competitive advantage including acquisition capability, operating capability, adaptive capability, and innovative capability (TDRI, 1989). This is consistent with the study conducted by Rai *et al*. (2015). Acquisition capability is a firm's ability in acquiring technology that can be deployed for conducting routine operations. Adaptive technology is the ability of a firm to adapt appropriate technology to fit its routine tasks. The innovative capabilities of a firm can be determined in how it can create new or advanced technologies out of prior ones and introduce them to the market. Operating capability refers to the ability of firms to employ trusted technologies that make the delivery of goods and services viable now and in the future.

Technology capability has a positive influence on business performance. Shin (2019) indicated that companies with well-equipped RandD capabilities, technological accumulation capabilities and innovation systems, in fact, demonstrate superior business performance. Resources acquired through business networking for the exchange or shared resources can achieve a mutual benefit, and this can positively enable innovation capability to be a key part of advanced capability (Walter, Auer and Ritter, 2006). Technology is an element of business networking which relates to information technology (Zacca, Dayan and Ahrens, 2015). An important foundation of possessing innovation capacity is the ability to integrate and apply available resources for maximum effectiveness for organizational structure, efficiency, learning and changing ideas with external agencies. These are part of the exchange of resources that will improve business efficiency (Hareebin, Aujirapongpan and Siengthai, 2016). Based on the above studies, the following hypotheses are proposed:

Hypothesis 2: Business networking has an influence on technology capability.

Hypothesis 3: Technology capability has an influence on business performance.

Hypothesis 4: Technology capability is a mediator between business networking and business performance.

The influence of innovation, business networking, and business performance

Innovation in an organization is the process of creating change such as the introduction of new products or services that create good value for customers and must be considered as part of a holistic approach concerning the generating, selecting, developing, and implementing of new ideas (O'Sullivan and Dooley, 2008). Modern management teams conduct business activities to utilize organizational structure and management practices that enable internal operations to create value – this is known as organizational innovation (Montalvan-Burbano *et al*., 2019). This terminology also refers to management innovation and administrative innovation. An innovation does not only suggest new discoveries but is greatly concerned with cooperation and interactive learning from various partners (Fieldsend *et al*., 2020). Innovation is a systems construct that has been devised to capture positive relationships between various stakeholders such as firms, customers, and other partners (Van Lancker *et al*., 2016). Organizational innovation is the development of an innovative system concerning knowledge transfer and knowledge sharing that supports viable business and procedural systems (Dogliotti *et al*., 2014; Klerkx, van Mierlo and Leeuwis, 2012; Nederlof, Wongtschowski and van der Lee, 2011).

Furthermore, organizational innovation can take the form of instruction, for example, in small or medium-sized firms applying managerial capability and this can include management style, decision-making, and development or training of staff. Secondly, operational capability includes process management, and performance management (Ali, Zwetsloot and Nada, 2019). The theoretical aspects regarding innovation are attributed to Tidd and Bessant (2018) who classified it into four dimensions. The first is product and service innovation which means applying new or existing technologies for products and services. A totally new product is introduced into the market by a firm. The second, process innovation refers to a new methodology creating products and services. The third is marketing innovation which focuses on customer/client needs and satisfaction with products and services that are introduced into specific markets. For the fourth, this refers to organizational innovation which mainly deals with strategic decisions conducted through newly developed business concepts that produce a sustainable competitive advantage. Higgins (1995) stated that organizational innovation is the improvement of management practices and policies that realize strategic objectives. Moreover, it can be considered as the appropriate implementation of methods within an environment that can facilitate internal learnings and knowledge sharing.

This study investigated service and marketing innovation of transportation business. Service innovation is a concept about connecting the manufacturing and service sectors to meet consumers' needs in real time coupled with new technologies for the creation of different

services, which is made possible through digital technology. Therefore, having a service innovation is an important part of the rationale of service-oriented businesses. When considering marketing innovations, it can be determined that innovation will lead to sustainable competitive advantages for firms to differentiate them from their competitors (Tinoco, 2010; Naidoo, 2010). It is noted in research that marketing innovations do influence actual customer satisfaction (Simon and Petnji Yaya, 2012).

Until recently, modern innovation theories have concentrated on cooperation and interactive knowledge sharing between stakeholders through networks of social relationships (Coenen and López, 2010; Lundvall, 2010). Håkansson (1982) stated that business networking can be determined from the connections in the network that mainly concentrate on innovation, most of which can be described as derived from existing business relationships. Furthermore, the role of networking may vary depending on the type of innovation (Öberg, 2019). There is much evidence confirming the positive effects of innovation on business performance (Ahmed, Najmi and Ikram, 2020; Donbesuur *et al*., 2020; Mazzanti, Pini and Tortia, 2006). Moreover, innovation and technological innovation capabilities can lead to superior business performance (Camisón and Villar-López, 2014). A few empirical studies have connected network capability to business performance models, for instance Langviniene and Daunoraviciute (2015) who state that business success depends on six key components: 1) internal marketing, 2) productive proposals, 3) customer relationship management, 4) labor management, 5) modern technology, and 6) innovation for creative business success to prevent any disruption or problems in business. Based on these the following hypotheses are posited:

Hypothesis 5: Business networking has an influence on innovation.

Hypothesis 6: Innovation has an influence on business performance.

Hypothesis 7: Innovation mediates between the influence of business networking and business performance.

Hypothesis 8: Technology capability and innovation as parallel mediators guide how business networking influences business performance.

CONCEPTUAL FRAMEWORK

The conceptual framework in Figure 1 below illustrates how business networking influences business performance by creating technology capability and innovation is an equally important in consideration of the mediator variables.

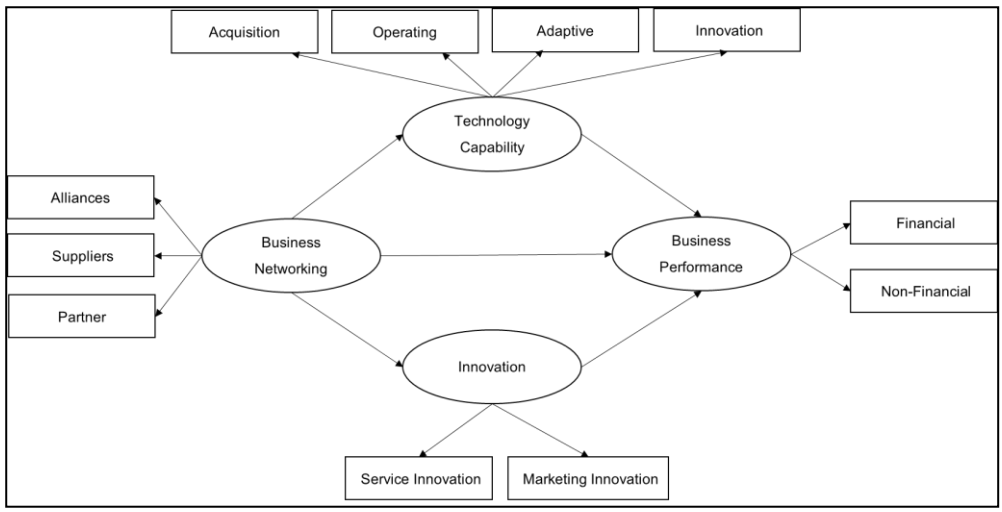

Figure 1: Conceptual framework

Source: Researcher, 2022

RESEARCH METHODOLOGY

Subjects and data collection

The population was 29,012 transportation businesses (9 DEC 2020 from Department of Business Development). The sample size comprised at least 10 - 20 examples per 1 parameter (Hair *et al*., 2010). Within this study, there are 11 parameters and hence the number of samples should between 110 - 220. This is appropriate for data analysis (n>200) in the structural model formula (Madden and Dillon, 1982) and enables empirical data to be more credible. Regarding the sample of 220 businesses, a stratified sampling method by region was used, and then a simple sampling technique was applied to identify potential respondents based on a list of transportation businesses in Thailand. The sample devised for this study of 16 Northern samples, 19 Northeastern samples, 165 Central samples, and 20 Southern samples. In total, 220 firms returned their answers to the questionnaire surveys that were

collected from the managers of transportation businesses by mail, within 3 months from May – July 2021.

Research instrument and variables measurement

The instrument implemented to collect the data was a questionnaire developed to fit the variables in the model. The framework was constructed based on the literature concerning the following variables: 1) Business networking contains 9 items developed by Blazkova (2011), Acquaah (2011), Schoonjans (2013), and Degerstedt (2015); 2) Technology capability consists of 12 items developed by Prem (2014), Arun (2015) and Serrano (2016); 3) Innovation has 6 items formulated by García-Morales, Jiménez-Barrionuevo and Gutiérrez-Gutiérrez (2012), Halim *et al*. (2014), and Tidd and Bessant (2018); and 4) Business performance comprises 9 items devised by Boniface, Gyau and Stringer (2012) and Lee *et al*. (2015). Consequently, its validity was proved through Item Objective Congruence (IOC), and was tested to check its reliability.

This research was subjected to ethical review from Kasetsart University. The COE number is COE64/031 and study code is KUREC-SS64/026 given on 10 March 2021.

Content validity and reliability

The content validity was evaluated by three experts who made their judgements based on concepts originating from organizational behavior, management, psychology, and innovation management. The result of content validity was an IOC score of all items being between 0.67 and 1.00, which was considered acceptable. The wording of the questionnaire was adjusted based on the advice of the experts to improve validity.

Currently, Cronbach's alpha is one of the most popular reliability statistical measurements for questionnaires (Cronbach, 1951). Cronbach's alpha determines the internal consistency or average correlation of items in a survey instrument to determine its reliability. In considering reliability, the researcher checked status in a pilot study consisting of 30 samples to meet Cronbach's alpha coefficient of higher than 0.7 (Nunnally and Bernstein, 1994). Cronbach's alpha coefficient from the pilot study indicated the following business networking = 0.835, technology capability = 0.917, innovation = 0.915, and business performance = 0.940. All items have high relative internal consistency so it was acceptable.

Construct validity

Confirmatory factor analysis tested the structural validity of each variable in the model according to empirical data. Statistical value was determined by χ^2 = 63.082, χ^2 /df = 2.175, GFI = 0.950, AGFI = 0.886, CFI = 0.984, NFI = 0.972, RMR = 0.014, RMSEA = 0.073. (Based on criteria of Chi-square/df < 3 (Hair *et al*., 2010), GFI > 0.90 (Byrne, 2001), AGFI > 0.80 (Doll, Xia and Torkzadeh, 1994), CFI > 0.95 (Hair *et al*., 2010), NFI > 0.90 (Arbuckle, 1997), RMR < 0.05 (Brown and Cudeek, 1993), and RMSEA < 0.08 (Diamantopoulos and Siguaw, 2000).

The observed variables correlated with the structural theory because factor loading's value being between 0.540 and 0.863, so it was more than 0.5. Composite reliability's (CR) value was between 0.771 to 0.862, which is more than 0.5 and testing the convergent validity by Average Variance Extracted (AVE) found that the AVE's value was between 0.537 and 0.694, it greater than 0.5 (Fornell and Larcker, 1981). Thus, all the indicators were acceptable for construct validity (Shown in table 1).

Table 1: Factor loading, R^2, Composite Reliability (CR), and Average Variance Extracted (AVE) for measurement model

Construct	Factor Loading	R^2	CR	AVE
Business Networking			0.771	0.537
Alliances	0.782	0.612		
Suppliers	0.841	0.707		
Partner	0.540	0.292		
Technology Capability			0.862	0.610
Acquisition	0.781	0.610		
Operating	0.723	0.523		
Adaptive	0.786	0.618		
Innovation	0.831	0.691		
Innovation			0.783	0.644
Service Innovation	0.812	0.659		
Marketing Innovation	0.793	0.629		
Business Performance			0.819	0.694
Financial	0.802	0.643		
Non-Financial	0.863	0.745		
Chi-square = 63.082**, Chi-square/df** = 2.175, **GFI** = 0.950, **AGFI** = 0.886, **CFI** = 0.984, **NFI** = 0.972, **RMR** = 0.014, **RMSEA** = 0.073				

Source: Researcher, 2022

Discriminant validity was measured by comparing the values of Average Variance Extracted (AVE) with the correlation of the construct. The square root of the extracted variance from each construct is higher than the correlation from the other constructs both vertically and horizontally (Fornell and Larcker, 1981). The outcome of discriminant validity was confirmed. (Shown in table 2).

Table 2: Discriminant validity

Variable	Business networking	Technology capability	Innovation	Business performance
Business networking	**0.732**			
Technology capability	0.728	**0.848**		
Innovation	0.714	0.745	**0.864**	
Business performance	0.688	0.762	0.715	**0.885**

Source: Researcher, 2022

Data analysis

For the purposes of data analysis, Step 1 considered the influence of business networking on business performance. When the path coefficient of independent variable on dependent variable was higher than 0.2, this means that it had the other variable hidden in the influence of both variables. Given this, the mediator variable will be examined in the next step. Step 2 involved both the influence of business networking on technology capability, and technology capability on business network. After that the indirect influence of business networking on business performance through technology capability was investigated. Step 3 analyzed both the influence of business networking on innovation and innovation on business performance, followed by assessing the indirect influence of business networking on business performance through innovation. The last phase step 4 analyzed the indirect influence of business networking on business performance through technology capability and innovation as parallel mediators.

RESEARCH FINDINGS

With reference to the descriptive statistics, most managers were male (56%), female (43%). Most of the respondents were 40-49 years old (48%), while 55.5% had 5-15 years' employment experience, and graduated with a Bachelor's degree (43.2%).

The parallel mediation framework analysis for hypotheses, and the summarized results of a parallel mediation analysis, are tabulated below.

Table 3: The code of constructs

Variables		Code
Business networking	BN	X
Technology capability	TC	M1
Innovation	IN	M2
Business performance	BP	Y

Source: Researcher, 2022

Table 4: Results for the total, direct, and indirect effect of the model

Model summary						
Total effect of model summary						
	coeff	se	t	p	LLCI	ULCI
BN → TC	0.620	0.081	12.890	0.000	0.879	1.197
BN → IN	1.024	0.057	17.901	0.000	0.912	1.137
TC → BP	0.204	0.075	2.720	0.007	0.056	0.351
IN → BP	0.501	0.062	8.127	0.000	0.056	0.351
BN → BP	0.785	0.061	12.923	0.000	0.665	0.905
Direct effect of model summary						
	effect	se	t	p	LLCI	ULCI
BN → BP	0.141	0.092	1.534	0.127	-0.040	0.323
Indirect effect through TC and IN						
	effect	BoostSE	BootLLCI 95%		BootULCI95%	
BN → TC → BP	0.106	0.035	0.038		0.177	
BN → IN → BP	0.434	0.056	0.321		0.540	
BN → TC/IN → BP	0.540	0.065	0.415		0.666	

Source: Researcher, 2022

From Table 4, considered the total influence of BN on BP, a statistical significance level of 0.001 was found, BN had an influence on BP, since the path coefficient was 0.785 (Supported H1).

Regarding the influence of BN on TC, the result found that at the statistical significance level of 0.001, BN had an influence on TC because the path coefficient was 0.620 (Supported H_2). At the statistical significance level of 0.010, TC had an influence on BP, show by the path coefficient was 0.204 (Supported H_3). After that, it was found that BN had an indirect influence on BP through TC, in which the path coefficient at 0.106 indicated the statistical significance level of 0.05 because BootLLCI and BootULCI did not cross zero (Supported H_4).

For the influence of BN on IN, found that at the statistical significance level of 0.001, BN had an influence on IN, which the path coefficient was 1.024 (Supported H_5) and IN had an influence on BP, which the path coefficient was 0.501 (Supported H_6). After that, it was found that BN had an indirect influence on BP through IN because the path coefficient was 0.434 at the statistical significance level of 0.05 (Supported H_7).

Comparing the indirect influence of BN on BP, the result was that the IN variable indicated a better mediator than the TC variable. This is because the indirect influence of BN on BP through IN had a path coefficient that was bigger than the indirect influence of BN on BP through TC.

Furthermore, the indirect influence of business networking on business performance through technology capability and innovation as parallel mediators, found that TC and IN as parallel mediators in the influence of BN on BP because the path coefficient was 0.540 at the statistical significance level of 0.05 (Supported H_8).

According to our analysis of the mediator, the total influence of BN on BP diminished from 0.785 to 0.141, and the path coefficient was not significant. The mediator could then be referred to as the full mediator. So, the TC and IN comprised a full mediator and it confirmed that business networking wielded an indirect influence on business performance through both technology capability and innovation as parallel mediators.

RESEARCH DISCUSSION

The first objective of this study was to verify the influence of business networking, technology capability, and innovation, on business performance in transportation business of Thailand. Our findings reveal that business networking does affect business performance. This is consistent with previous studies which examined the relationship between business networking and business performance in Malaysian SMEs (Saleh and Harvie, 2010; Abbas *et al.*, 2019). It makes clear that business networking is a major factor in business success (Suriyapperuma, Khatibi and Yajid, 2015). Moreover, the results revealed that business networking exerted a significant influence on technology capability. Resources acquired through business networking for the exchange or sharing of resources is important for mutual benefit, so innovation capability is a key part of technology capability (Walter, Auer and Ritter, 2006). Technology is an element of business networking and it relates to information technology (Zacca, Dayan and Ahrens, 2015). This proved to be similar to Hareebin, Aujirapongpan and Siengthai (2016), who in their study indicated that businesses should

establish alliances with RandD institutions or other business firms along the supply chain to achieve innovative capability if a truly competitive advantage is desired.

Likewise, technology capability is an important aspect of business performance, which is supported by Wang *et al*. (2006). They investigated how technology capability influences business performance: an integrated framework based on the contingency approach. These authors found that technology capability's direct relationship with both new product development and business performance stands out. The findings indicated technology capability mediates the influence of business networking on business performance, suggesting that certain levels of technology capability will help a business achieve meaningful cooperation in a venture that seeks to be competitive. This finding agrees with what previous studies reported, which found that innovation capacity is an integrated one and applies resources to their maximum effect in terms of organizational structure, learning and dealing with external agencies (Hareebin, Aujirapongpan and Siengthai, 2016).

Besides this, business networking has an influence on innovation. The research of Langviniene and Daunoraviciute (2015) stated that business success depends on 6 key components: 1) internal marketing, 2) productive proposals, 3) customer relationship management, 4) labor management, 5) modern technology, and 6) innovation. Successfully realizing these requirements will and prevent disruptions or help solve problems when they emerge. Parida *et al*. (2017) concluded that the ability to build networks can improve organizational innovativeness and be more effective in terms of consolidating customers, sales, and innovation. The importance of network capabilities in small companies or start-ups cannot be underestimated given their need to remain competitive.

The result supports the second research objectives; technology capability and innovation as parallel mediators wield an influence on how business networking guides business performance in the transportation business of Thailand. Based on results documented here, technology capability and innovation as parallel mediators drive business networking for improving business performance. Firms in today's digitized economy require technology capabilities and innovation to enhance their performance. Specifically, focus on acquisition capability to absorb external technology so that technology is successfully integrated into and adapts to business conditions to achieve success, is vital. Furthermore, the innovation variable indicated a better mediator than the technology capability variable. Drucker (1985) suggests business should have the ability to design and modify ideas to develop an innovative product or service from internal and external resources and guarantee its success through a proper marketing process.

RECOMMENDATIONS

Academic contribution

This research concentrates on the concepts of business networking, technology capability, innovation, and business performance. First, we analyzed the influence of business networking on business performance. Second, our study has identified two mechanisms that guide financial and non-financial business performance, these being technology capability and innovation. Specifically, a parallel mediator of technology capability and innovation is rarely considered by another research, if at all. Finally, we confirmed that business networking is important to business performance, and is mediated by technology capability and innovation as a full mediator. That will motivate other scholars in terms of developing a holistic view of other variables that could serve as mediators and enhance business performance.

Implications for practice

Business networking is a key factor affecting business performance. Executives should focus on business networking because it encourages firms' resilience in responding to a competitive environment, and they must know how to protect their networks effectively. This study explores business networks according to alliances, suppliers, and partners. In determining alliances, transportation businesses should build partnerships for the purposes of cooperation, information sharing, and information technology exchange. Consequently, cooperation will directly support technology capacity and innovation in firms, so in this way business performance will be strengthened. In determining suppliers' networks, cooperation and exchange can create quick responses to other parties' needs. In the case of joint venture, the allocation of both financial and non-financial resources has a positive effect on both technology capacity and innovation. A joint venture company can enter a worthwhile agreement concerning cooperation in using resources efficiently that in turn encourages better innovation and technology capacity, and operational processes. Furthermore, digital communication technology in terms of application and platform are important for quick responses to customers' needs and requirements in the long term.

It can be concluded that both technology capability and innovation are hidden variables in how business networking influences business performance. A business should focus on the acquisition modern technology for everyday operations. Developing updated and efficient database systems will benefit decision-making including planning and quality control. In terms of service innovation and marketing innovation, the business should concentrate on a

variety of services to meet customers' needs. In the business of customer retention and acquiring new ones, businesses should embrace and implement new technologies, for example, providing services through various and diversified online platforms.

Research limitations and future research

In considering the limitations of this work, its framework is restricted to technology capability but not the wider context of digital transformation, artificial intelligence, and other digital technologies. So other researchers can determine to take up and explore these in more detail. Information sharing is crucial for business networking and more research needs to be done on this important topic. This will support more advances being made in order to contribute to both academic research and business firms' practices regarding the concept of the network. Thai transportation firms need to engage in continuous strategic surveilence or environmental scanning of the supply chains to apply appropriate strategies when the needs of or trends in the industry appear to chanage. According to the methodology applied to explain the results, this study employed a quantitative analysis method. In terms of longitudinal study, other scholars should undertake a qualitative study to support the quantitative data and clarify the results of the multi-variables that exist in this industry.

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